

Fig. 3A

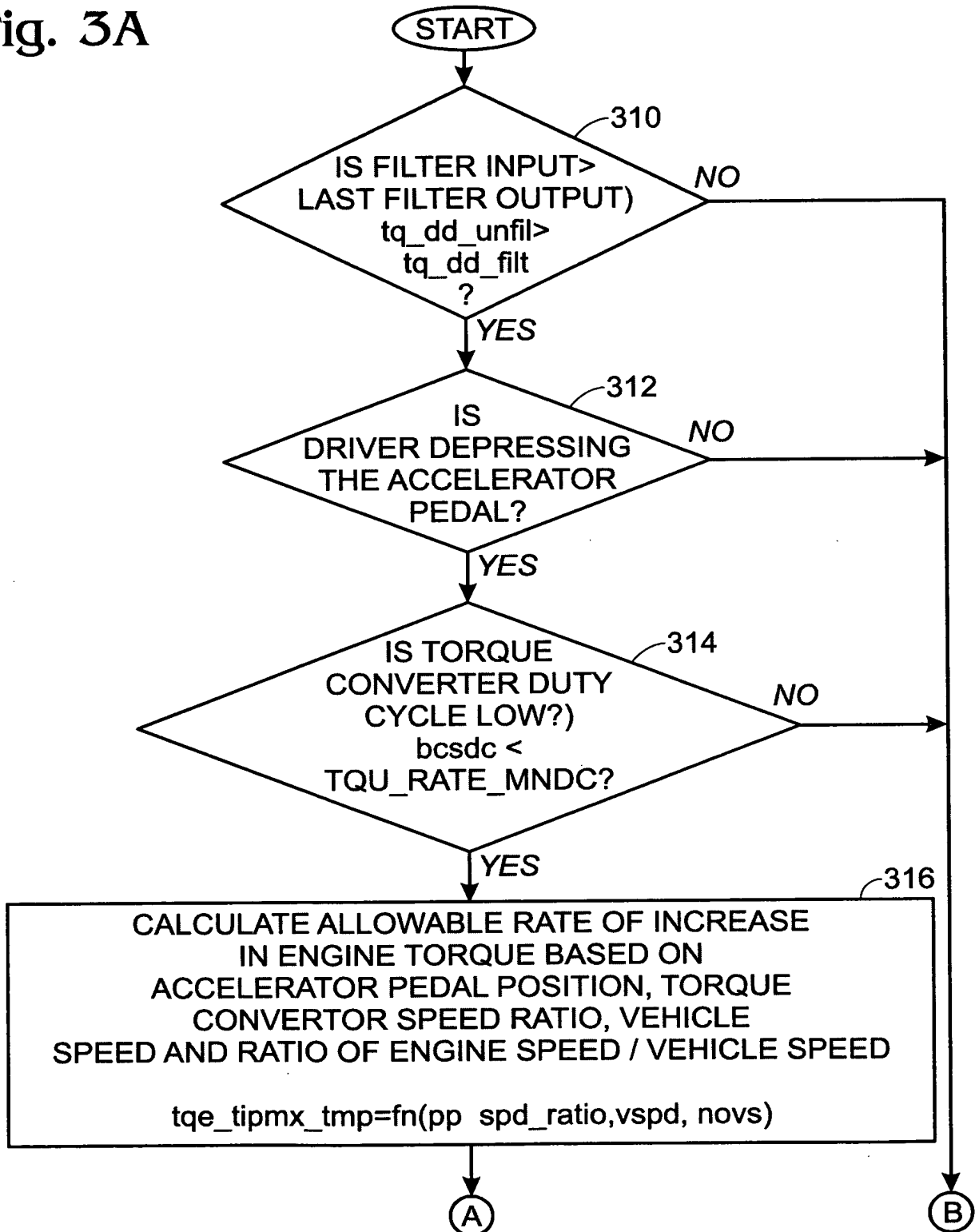


Fig. 3B

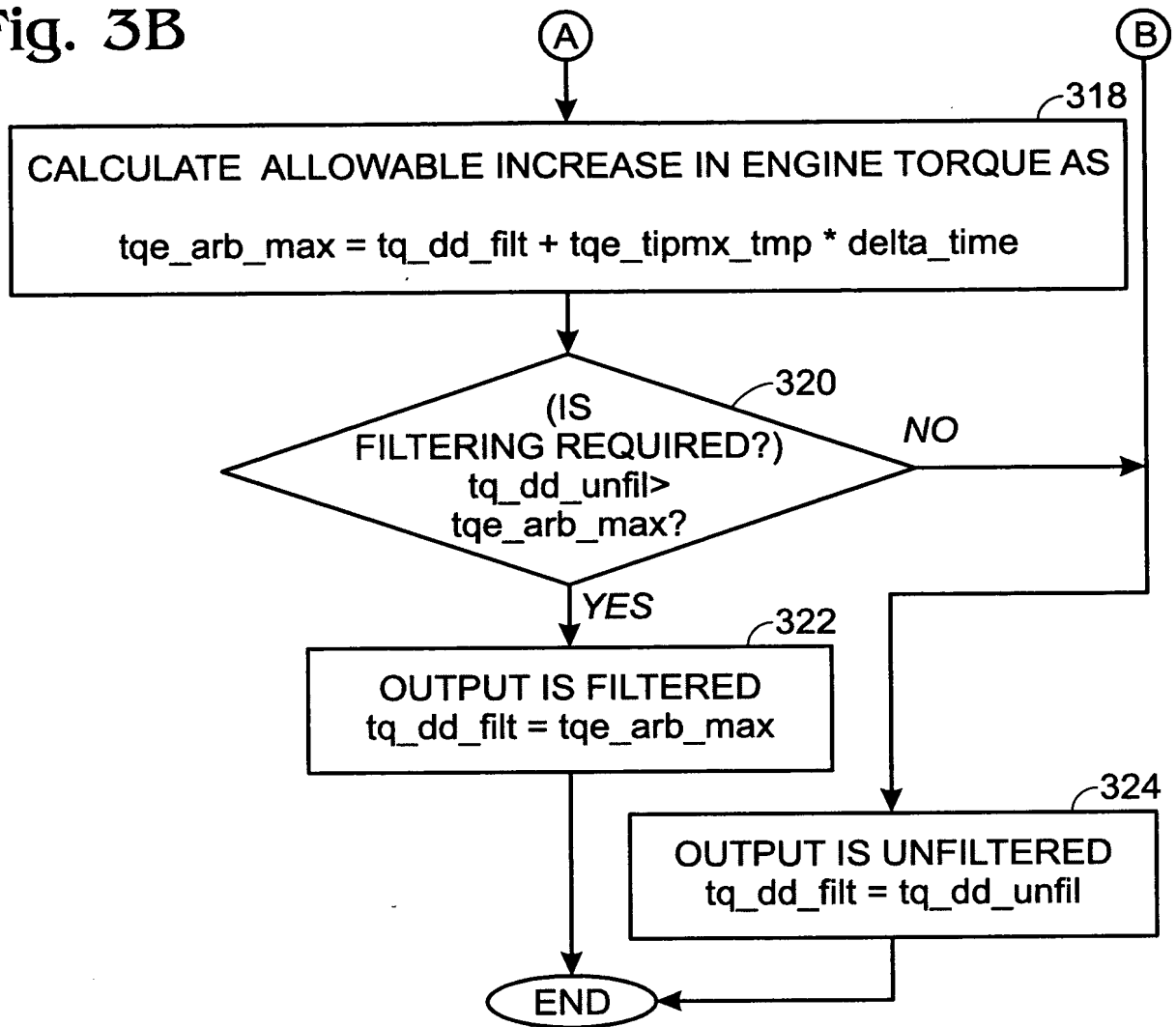
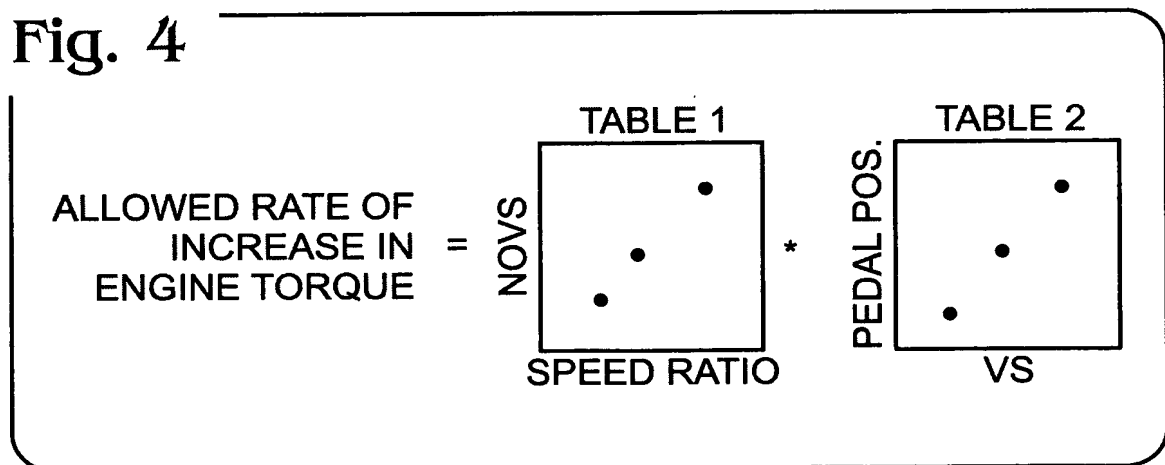


Fig. 4



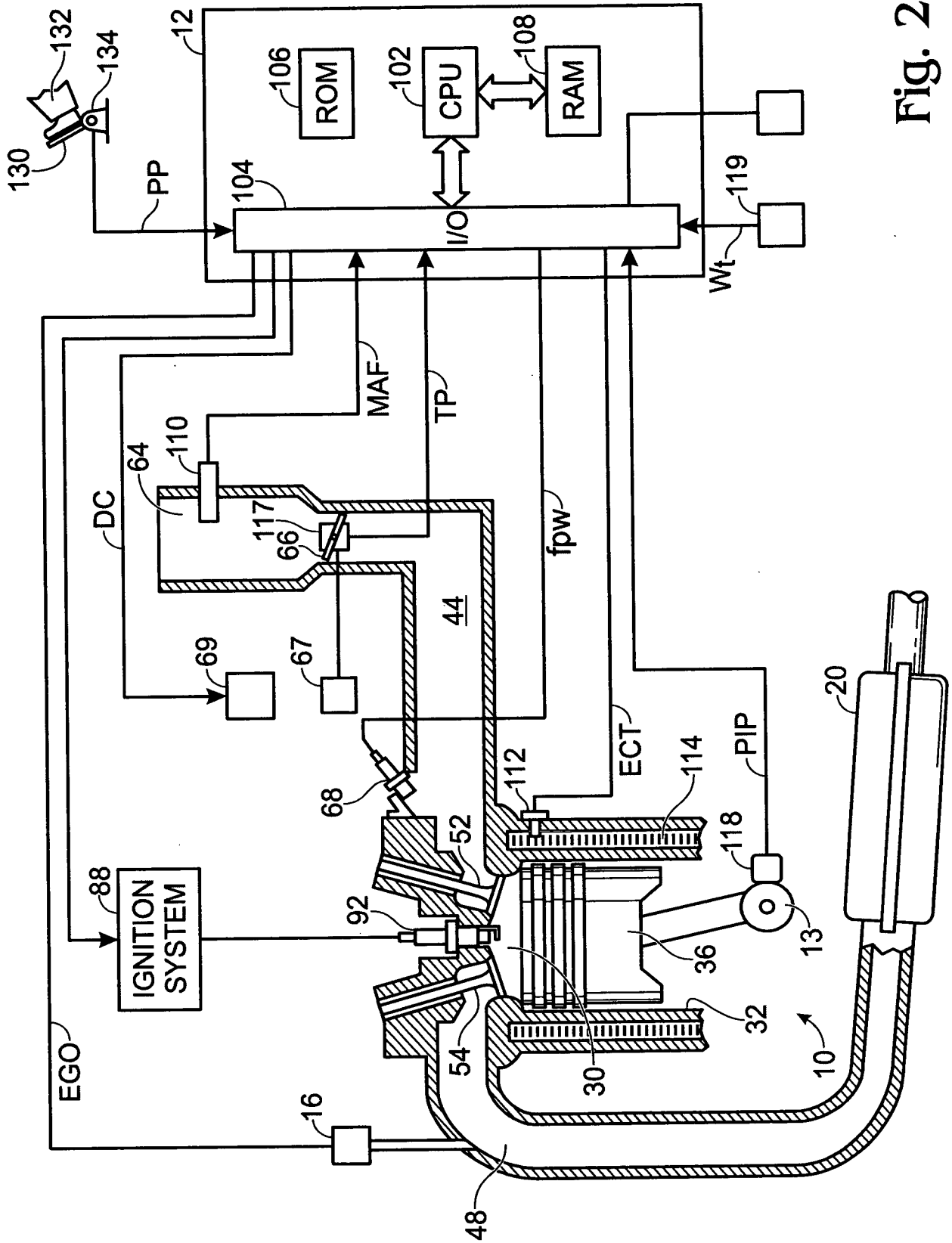


Fig. 2

Fig. 5

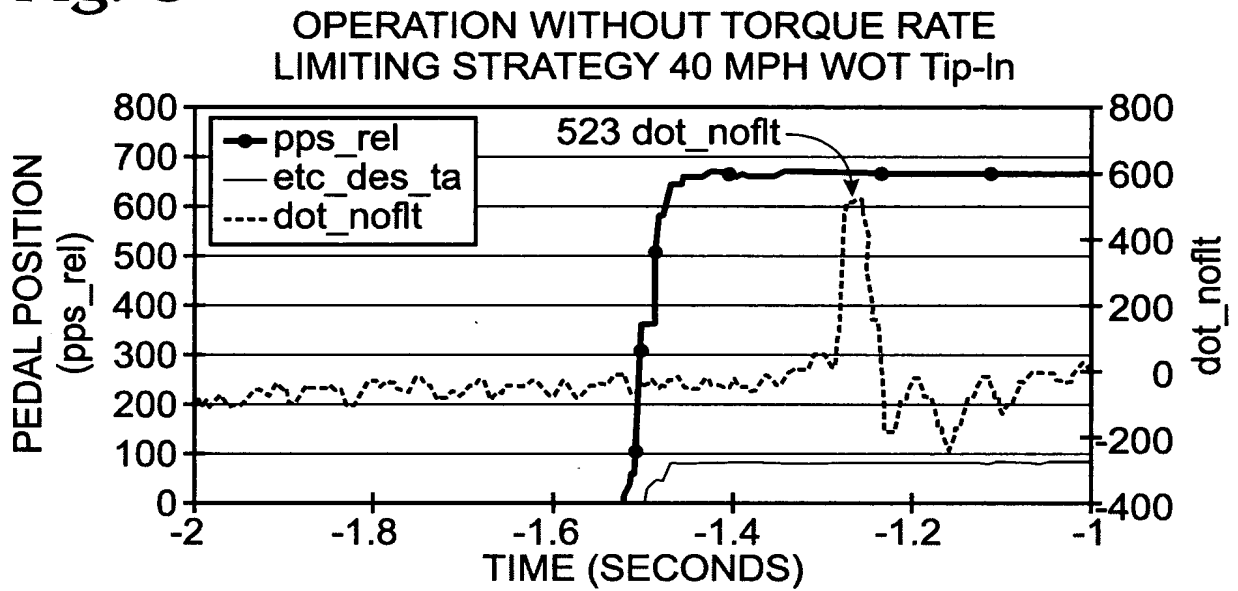
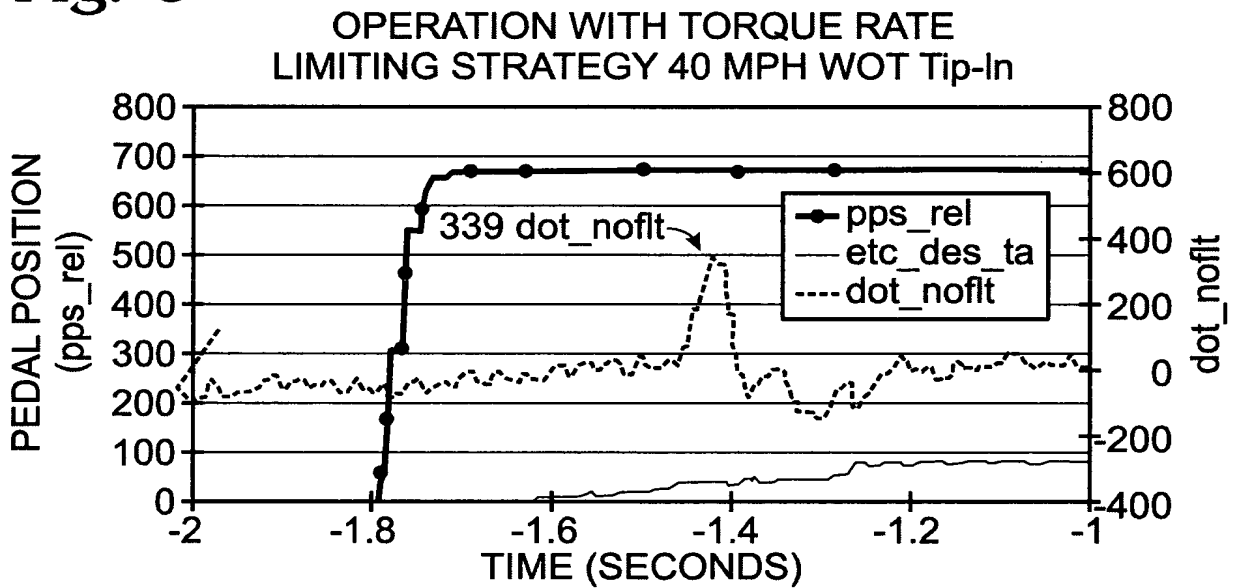


Fig. 6



**Fig. 7****Example Embodiment of Computer Code**

<b>Terms</b>	<b>Units</b>	<b>Definition</b>
app	flag	-1=foot off accel pedal, 0=part pedal, 1=max pedal
bcsdc	fraction	torque converter bypass clutch duty cycle
TQE_RATE_MNDC	unitless	threshold of duty cycle to enable filter
FNTQ_RATEMUL	unitless	modifier to engine torque rise rate limit
FNTQ_RATEMAX	Nm/sec	engine torque rise rate limit
pps_rel_hyst	a/d cnts	accelerator pedal position (relative value of PP to foot off position)
vspd	mph	vehicle speed
novs	rpm/mph	ratio of engine speed / vehicle speed
spd_ratio	unitless	ratio of turbine speed / engine speed
tq_dd_unfil	Nm	filter input
tqe_dd_filt_tmp	Nm	filter output
tqe_dd_req	Nm	engine torque request (input) (based on pps_rel_hyst and vehicle speed in one example)
tqe_dd_filt	Nm	last pass filtered output

```

if (( app > -1 )                                /* At part pedal tipin */
    && ( bcsdc < tqe_rate_mndc ) /* converter is not lock yet */
    && ( tq_dd_unfil > tqe_dd_filt ) ) /* increasing driver
demand request */
{
    tqe_tipmx_tmp = lookup_3d(&fntq_ratemul, pps_rel_hyst,
vspd) * lookup_3d(&fntq_ratemax, novs, spd_ratio) ;
    tqe_arb_max = tqe_dd_filt + (tqe_tipmx_tmp * delta_sec_tmp)
; /* tipin rate */
    if (tqe_dd_filt_tmp > tqe_arb_max) /* Filtered DD greater
max */
    {
        tqe_dd_filt_tmp = tqe_arb_max ; /* Clip */
    }
    else
    {
        tqe_dd_filt_tmp = tq_dd_unfil;
    }
}
else
{
    tqe_dd_filt_tmp = tq_dd_unfil;
}

```